(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 9 June 2005 (09.06.2005)

PCT

(10) International Publication Number WO 2005/051163 A2

(51) International Patent Classification7:

A61B

(21) International Application Number:

PCT/KR2004/003026

(22) International Filing Date:

23 November 2004 (23.11.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10-2003-0083963

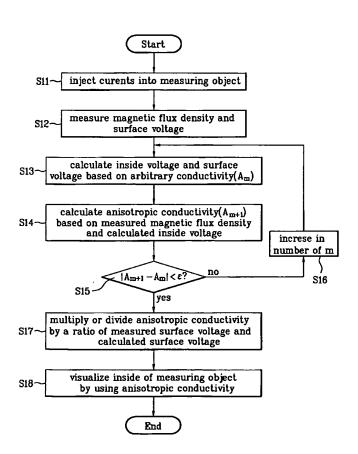
25 November 2003 (25.11.2003) KR 10-2004-0001993 12 January 2004 (12.01.2004) KR 10-2004-0079238 5 October 2004 (05.10.2004) KR

(71) Applicant (for all designated States except US): UNI-VERSITY-INDUSTRY COOPERATION GROUP OF KYUNGHEE UNIVERSITY [KR/KR]; 1 Seochun, Kiheung, Yongin, Kyungki-do 449-701 (KR).

- (71) Applicants and
- (72) Inventors: WOO, Eung Je [KR/KR]; Samick Villa 106-104, Gumi-dong 121, Bundang-gu, Seongnam-si, Gyeonggi-do 463-743 (KR). SEO, Jin Keun [KR/KR]; Samhogarden Mansion Ra-308, Banpo-dong 30-18, Seocho-gu, Seoul 137-040 (KR). KWON, Ohin [KR/KR]; Hanshin-Chunggu APT., 112-1502, Mok 6-dong, Yangcheon-gu, Seoul 158-751 (KR). KIM, Tae Seong [KR/KR]; Department of Biomedical Engineering, College of Electronics and Information KyungHee University, 1 Seochun, Kiheung, Yongin (KR). LEE, Byung II [KR/KR]; Department of Biomedical Engineering, College of Electronics and Information KyungHee University, 1 Seochun, Kiheung, Yongin (KR). LEE, Suk Ho [KR/KR]; Department of Mathematics, Yonsei University, Seoul 120-749 (KR).
- (74) Agents: BAHNG, Hae Cheol et al.; KBK & AS-SOCIATES, 15th Floor Yo Sam Building, 648-23, Yeoksam-dong, Kangnam-gu, Seoul 135-080 (KR).

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR VISUALIZING CONDUCTIVITY AND CURRENT DENSITY DISTRIBUTION IN OBJECT



(57) Abstract: System for visualizing conductivity and current density distributions including a plurality of current injecting devices for injecting currents into a measuring object; a measuring unit for measuring a magnetic flux density due to the currents injected into a measuring object; an operating unit for selecting one pair of the current injecting devices in succession so as to inject currents of different directions into the measuring object, and calculating directional components of an anisotropic conductivity inside of the measuring object on the basis of the measured magnetic flux density; and displaying means for visualizing an inside of the measuring object by using the calculated directional components of the anisotropic conductivity.

WO 2005/051163 A2

- 1 SERVE CULTURAL EL MORTE CULTURAL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL CONTROL C
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.